

GROWTH IN MASSACHUSETTS SMALL TOWNS AND THE IMPLICATIONS
FOR REAL ESTATE DEVELOPERS

by

D. Ben Kenney

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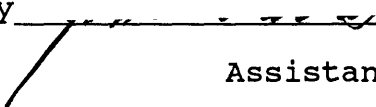
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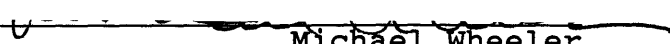
Signature of the author


D. Ben Kenney
Department of Urban Studies and Planning
July 29, 1988


Certified by


J. Mark Davidson Schuster
Assistant Professor of City Planning
Thesis Supervisor

Accepted by


Michael Wheeler
Chairman

Interdepartmental Degree Program in Real Estate Development

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Submitted to the Department of Urban Studies and Planning
on July 29, 1988 in partial fulfillment of the
requirements for the Degree of Master of Science in
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ABSTRACT

The purpose of this study was to determine the primary determinants of growth in Massachusetts small towns and to explore the effects of this growth on real estate values. Data were collected for a sample of 97 small towns having populations under 20,000. Multivariate models were developed to predict population growth and increases in real estate values.

The results of the study revealed that Massachusetts small town growth in the 1970's has been concentrated in the smallest towns providing plentiful open space and adequate public services (as evidenced by the per capita tax levy). In the subset of larger small towns (over 2,500 population), a non-unionized labor force and recreational opportunities are also responsible for attracting growth. The relationship between growth and increases in real estate values was lower than expected.

The rental market is similar in small towns of all sizes. The highest rental increases are found in towns with freeway access, public services, high owner-occupied property values and low rents.

The for-sale housing market is quite different in small towns of different sizes. In the smallest of towns, property values rise the fastest where the town is within an SMSA, where rents are low, taxes (and services) are high, and where land has not been overly subdivided. Interstate access is a detriment to property value increases. In larger small towns, property values rose most rapidly in low density, conservative areas with a well educated, high income populace. High property values, high per pupil school expenditures and large percentages of older persons and owner-occupied housing are associated with slower growing property values.

Thesis Supervisor: J. Mark Davidson Schuster
Title: Assistant Professor of City Planning

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CHAPTER 1: INTRODUCTION

BACKGROUND

Something very interesting is going on in small towns and rural areas across the United States. For the first time since the turn of the century, nonmetropolitan growth has exceeded the growth rate for the nation as a whole (Johnson, 1984, p3). The 1980 census revealed that nonmetropolitan areas were growing at an annual rate of 14.4 per 1000, compared to metropolitan areas where growth rates were only 9.6 per 1000. This marks a significant reversal of past trends. As recently as from 1960 to 70, the metropolitan rate (15.8) was over four times greater than the nonmetropolitan rate (3.8). The phenomenon is well documented and has been dubbed "the nonmetropolitan turnaround" (Long, 1981, p.16).

The new growth has a dual nature. It is occurring in small towns away from SMSA's as well as in the rural areas of the suburban fringe. Those counties lying outside of, but adjacent to, metropolitan areas reported the highest growth between the 1970 and 1980 censuses.

As I shall argue in more detail in later chapters, this trend is not a passing fad. It is affecting every region of the country, although most noticeably the South and West.

Other highly developed countries such as France, West Germany, Japan, and Sweden have experienced similar population shifts. (Long, 1981, p.30). The far-reaching nature of this trend is what makes it truly remarkable. James Zuiches has gone so far as to compare the importance of the population turnaround to the fertility rate increase of the post-war baby boom. Other researchers regard the population turnaround to be "one of the most significant demographic events of recent decades." (Brown, 1981, p.53)

A NEW FRONTIER FOR DEVELOPERS

Small towns and nonmetropolitan areas are experiencing a fundamental, long term change of direction. These social and economic changes are creating new opportunities for developers. For the most part, developers have yet to capitalize on the possibilities in nonmetropolitan areas. To take full advantage of these opportunities, real estate investors and developers must first understand these population dynamics. Specifically, they must be able to forecast where migration inflows are likely to occur, and what the likely impact of the inflow will be on the real estate market.

Most research on the rural population turnaround has been in the form of national or regional statistical studies.

Unfortunately, this highly aggregated approach often masks forces that are at work in a particular local area. David Brown and Calvin Beale, a demographer for the United States Department of Agriculture who is credited with first identifying this surprising trend, issue the following warning:

Social, economic and demographic conditions all vary greatly among communities outside of metro areas. As a consequence, broad generalizations about nonmetro trends and issues often conceal as much information as they provide (Brown, 1981).

For developers and investors to make wise decisions, they must understand the forces of change in the specific markets in which they are working. Models based upon data from a national sample may not be very helpful to the developer contemplating a small town project in the Berkshires.

Many theories have been offered in the literature to explain the recent small town and rural growth. However, only certain of these theories may be appropriate for Massachusetts. Because there has not yet been an in-depth analysis of the trend in Massachusetts, this thesis will attempt to fill that gap by testing the theories for their ability to explain variation in growth among small towns in Massachusetts. By utilizing multivariate statistical models, I hope to be able to determine the relative importance of each of the theorized forces of growth.

Once this phenomenon as manifested in Massachusetts is

better understood, strategies by which developers can profit from the rural renaissance can be recommended. My purpose in writing this thesis is to reach statistically valid conclusions that will be useful to real estate professionals, rather than simply conveying information of interest to researchers. The state is the highest level of aggregation at which I feel my results will be useful in the field. However, there are undoubtedly more localized differences that must be studied. It is my hope that this thesis will provide direction for the work that remains to be done.

ORGANIZATION OF THE THESIS

The thesis is broadly divided into three sections, a literature search, a statistical analysis of Massachusetts small towns, and a discussion of the implications that the results hold for real estate developers.

Section I: Literature Search

Chapter two examines the population turnaround at the National, Regional, and State levels.

Chapter three deals with the theories that have been offered in the literature to explain the recent growth in small towns and rural areas.

Section II: Statistical Analysis of Massachusetts

Small Towns

Chapter four discusses the design and results of a multivariate analysis of variations in small town growth.

Chapter five offers statistical models that explains variation in rents and owner-occupied housing values.

Section III: Implications for Developers

Chapter six summarizes the results of the statistical analysis and makes concluding observations.

CHAPTER 2: POPULATION TRENDS

THE NATIONAL TREND

Generally, the nation's population trends are quite stable. From 1950 to 1960, only 19% of all counties went from decline to growth or vice versa. From 1960 to 1970 that number had increased to 25%. Then in the 1970's, 33% of all counties experienced "turnarounds" in their population growth rates. In many of these cases, it was a nonmetropolitan county that had been exporting its population for decades that was now experiencing net immigration. On the other hand, the growth of suburban areas slowed such that they were less able to offset the decline of central cities (Long, 1981, p.2).

Because of reduced fertility rates in the 1970's and 1980's, migration has taken on a more important role in determining population growth. Between 1960 and 1970, nonmetropolitan counties suffered a net outmigration at an annual rate of 5.8 per 1000. In the 1970's, however, that rate had turned around to an annual immigration rate of 8.8 per 1000, an increase at the expense of metropolitan areas of 14.6 per 1000 per year over the previous decade (Long, 1981,

p.7). During this same period, the annual rate of natural increase (births per 1,000 minus deaths per 1,000) in nonmetropolitan counties dropped from 9.6 to 5.6 per 1000. Metropolitan counties have experienced a similar decline in the rate of natural increase, but their absolute level of natural increase still remains well above the nonmetropolitan level of natural increase (See Table 1). The turnaround in nonmetropolitan population growth must, therefore, be explained by immigration (as is shown in Table 1.).

In the 1970's, about 90% of nonmetropolitan counties either experienced increases in the rate of growth or decreases in the rate of decline. This trend was strong enough to propel two-thirds of previously declining counties into the growth category. Since the 1980's, an apparent reversal of the turnaround has occurred. Metropolitan areas are once again growing faster than nonmetropolitan areas. While some researchers speculate whether the turnaround is over, it seems that definitions are confusing the issue. In 1980, many counties previously regarded as nonmetropolitan were reclassified as metropolitan due to changing commuting and economic patterns. Today, metropolitan areas account for 20% of the United States' land mass. Still, from a practical standpoint, most of this land is rural or contains small communities rather than characteristically "urban" development. Table 1 shows that of all metropolitan areas,

TABLE 1. AVERAGE ANNUAL RATES OF POPULATION CHANGE, NET MIGRATION, AND NATURAL INCREASE BY METROPOLITAN STATUS AND SIZE:
1960 TO 70 AND 1970 TO 80

Metropolitan status and size	Population	Population change		Net migration		Natural increase	
	1980	1960-70	1970-80	1960-70	1970-80	1960-70	1970-80
	In Thousands	Average annual rates per 1000 population					
United States...	226,505	12.6	10.9	2.0	4.6	10.6	6.3
Metropolitan.....	165,993	15.8	9.6	4.9	3.1	10.9	6.5
3 million and over	60,099	15.9	3.7	5.6	-2.5	10.3	6.2
1 to 3 million...	41,664	18.3	12.1	7.6	6.1	10.7	6.0
1/2 to a million..	25,532	14.9	11.8	3.9	5.1	11.0	6.7
1/4 to 1/2 million	21,266	14.3	14.9	2.0	7.4	12.3	7.5
under 1/4 million.	17,342	12.8	15.2	.5	7.5	12.3	7.7
Nonmetropolitan.....	60,511	3.8	14.4	-5.8	8.8	9.6	5.6

Source: Long, Jack F. Population Deconcentration in the United States.
Bureau of the Census, 1981, p.19.

growth was most rapid among those smaller areas having less than 250,000 inhabitants. This is possibly another manifestation of rapidly growing nonmetropolitan areas being reclassified as small metropolitan areas.

THE REGIONAL TREND

The movement from metropolitan areas to small towns and rural areas is closely related to the North-South shift that has received so much media attention, but that is often misunderstood. The mass migration from the North and East to the South and West cannot simply be explained by climatic preferences. Many of the western areas that are growing most rapidly have cold climates. During the same period that nonmetropolitan areas were outpacing the growth of metropolitan areas, it was announced that, for the first time ever, more Americans lived in the South and West than in the East and West (Naisbitt, 1982, p.207). People are simply moving to less densely settled areas, and the largest share of these are located in the South and West. There are exceptions, however. The sparsely settled states of northern New England, for example, are growing much faster than the densely populated cities of the Northeast but are every bit as cold. The same phenomenon may be seen in other parts of the North.

There is ample opportunity for real estate investors to take advantage of the population turnaround in the Northeast. In the Northeast, as in other parts of the country, people are choosing to live in less densely populated areas. The main difference is that in the South and West immigrants to nonmetropolitan areas are more likely to be relocating from a different state. In the Northeast, net immigration to nonmetropolitan areas is more often the result of population reshuffling within the same state. This effect can be seen in more detail in Table 2.

Close inspection of Table 2 reveals an interesting occurrence. In the Northeast (New England and the Middle Atlantic States), movement from SMSA's has been greater than movement in the opposite direction since the 1935-40 period. It appears, then, that the population turnaround is not so new in the Northeast; it merely went unnoticed. Note that it took the country as a whole forty years to display the same pattern. This result occurred earlier in the Northeast because of the earlier date at which the region became highly industrialized (Wilson, 1987, p.222).

During the 1960's, the Northeast region grew at an annual rate of only 9.4 per 1000 compared to the national average annual rate of 12.5 per 1000. In New England, the rate was just under the national average (12 per 1000) due to a below average rate of natural increase. In the 1970's, growth in

TABLE 2: MIGRATION WITHIN AND BETWEEN METROPOLITAN AND NONMETROPOLITAN SECTORS

		1935-1940					1955-1960					1975-1980				
				%from dif. state					%from dif. state					%from dif. state		
		Migrants		%from	Diff.		Migrants		%from	Diff.		Migrants		%from	Diff.	
		(1,000s)	%	same	region		(1,000s)	%	same	region		(1,000s)	%	same	region	
Nation																
Between SMSA's																
From SMSA to outside		10985	100.0				20632	100.0				31069	100.0			
From outside to SMSA		2456	22.4	27.0	73.0	40.6	6632	32.2	25.3	74.7	NA	16215	52.2	34.9	65.1	39.1
Between Nonmetro areas																
		1864	17.0	57.0	43.0	18.2	4099	19.9	47.4	52.6	NA	5715	18.5	48.7	51.2	25.5
		2285	20.8	52.2	47.8	27.8	5021	24.3	42.6	57.4	NA	5042	16.2	47.9	52.1	27.3
		4380	39.9	70.2	29.8	11.6	4880	23.6	60.9	39.1	NA	4061	13.1	67.8	32.2	14.0
Northeast																
Between SMSA's																
From SMSA to outside		1353	100.0				3010	100.0				4328	100.0			
From outside to SMSA		607	44.9	28.7	71.3	30.8	1240	41.2	26.7	73.3	NA	2639	60.1	40.4	59.6	30.0
Between Nonmetro areas																
		278	20.6	60.1	40.0	10.8	744	24.7	51.5	48.5	NA	829	19.1	55.2	44.8	21.2
		254	18.8	47.6	52.4	28.0	647	22.0	45.0	55.0	NA	551	12.7	54.3	45.7	23.1
		214	15.8	71.5	28.5	9.8	379	12.6	64.6	35.4	NA	309	7.1	62.8	37.2	15.5

Source: Wilson, Franklin D. "Metropolitan and Nonmetropolitan Migration Streams: 1935-1980 in Demography, Vol.24, No. 2, May, 1987, p.223.

the Northeast was even more stagnant. During this period, every state in the Northeast, with the exceptions of New Hampshire, Vermont, and Maine, experienced increased outmigration. (Long, 1981, p.50).

Despite these unfavorable statistics, nonmetropolitan areas fared quite well during the same period. Net migration in the decade of the 1970's increased from a previous rate of 0.3 per 1000 to 8.1 per 1000. No other class of metropolitan area experienced even one-third the rate of net immigration of nonmetropolitan areas (see Table 3).

THE TREND IN MASSACHUSETTS

The 1980 census indicates that only two states in the nation had lower rates of population growth than Massachusetts: Rhode Island and New York. In both states growth rates were negative. Massachusetts experienced annual growth of only 0.8% (Long, 1981, p.52).

It has been said that "trends, like horses, are easier to ride in the direction they are going." (Naisbitt, 1982, p.9) This seems to apply most poignantly to Massachusetts. In an age where the trend is toward deconcentration, the state suffers from a population density that is twelve times the national average. The most recent figures, covering the 1980-85 period, show that Massachusetts has grown a total of

TABLE 3: Average Annual Rate of Net Migration in the Northeast
Per 1,000 Population By Metropolitan Size

	NET MIGRATION	
	1960-1970	1970-1980
Total	1.0	-3.9
Metropolitan	1.1	-5.8
Metropolitan:		
over 3 million	1.6	-8.3
1 - 3 million	-3.7	-7.7
1/2 - 1 million	3.0	-1.6
1/4 - 1/2 million	-0.3	2.3
under 1/4 million	0.9	1.7
Nonmetropolitan	0.3	8.1

Source: Long, 1981, p.59.

TABLE 4: A COMPARISON OF SURVEYS OF RESIDENTIAL PREFERENCES IN THE U. S. FROM 1948 TO 1978

Preferred Residence	Roper 1948	Gallup				Population Commission		Research Analysis Corp.	HUD
		1966	1968	1970	1972	1976	1971	1976	1978
	%	%	%	%	%	%	%	%	%
Cities	15	22	18	18	13	13	17	8	24
Suburbs	20	28	25	26	31	29	18	25	26
Small towns	41	31	29	31	32	21	30	30	23
Rural Areas	24	18	27	24	23	37	34	36	25
No opinion, other	0	1	1	1	1	0	1	1	2
Total	100	100	100	100	100	100	100	100	100

Source: Zuiches, 1981, p.83.

1.4% during those five years, although net migration was -0.6% over the period. Net migration was highest by far in the three Cape Cod counties (Dukes, Nantucket, and Barnstable, all nonmetropolitan counties) where five-year net migration rates for the 1980-85 period were +15.6%, +15.2%, and +11.9% respectively. An analysis of Massachusetts PMSA's shows that only three metropolitan areas experienced net immigration during the 1980-85 period. These were the Lawrence-Haverhill and Lowell PMSA's, both lying along the New Hampshire border, and the Pawtucket-Woonsocket-Attleboro PMSA on the Rhode Island border. Aggregating across the state, those areas within MSA's experienced a five-year net outmigration of -1% while areas outside of MSA's experienced a net immigration of 3.5% during the same period.

In Massachusetts, the image of the sleepy small town filled with "old timers" and "home-growns" is largely a relic of the past. Today, a person living within a nonmetropolitan area is more likely to have been born out of state than is a person living within a metropolitan area.

NATIONAL RESIDENTIAL LOCATION PREFERENCES

Given the opportunity, almost half of American adults would move to towns with fewer than 10,000 inhabitants or to rural areas.

George Gallup, Jr.
February, 1985

Spatial surveys on residential preferences conducted between the late 1940's and 1978 have consistently shown that Americans prefer to live in small towns and rural areas (See Table 4). This desire to live in smaller communities has continued strongly into the 1980's. Zuiches has shown this tendency in his 1981 study (Johansen, 1984, p.4).

Most recently, the Urban Land Institute published the results of a public-opinion poll conducted at Rutgers University's Eagleton Institute of Politics in 1987. Residents of New Jersey were asked to rank different types of communities in terms of their desirability. More people found small towns to be very desirable (50%) than any other category. By comparison, only 10% rated cities as being very desirable places in which to live. Conversely, only 16% rated small towns as undesirable whereas 67% found cities to be undesirable (Urban Land Institute, 1988). These results are not simply reflecting a dislike for the largest of cities. When broken down into finer detail, small towns (defined as places with 2,500 to 10,000 inhabitants) were preferred over any other size of city (Herbers, 1984, p.188).

Of equal importance, recent findings have shown that rural teenagers and younger adults are now less likely to want to migrate to larger cities than in past years. This observation holds the promise of higher growth by reducing the

outmigration of younger people who have traditionally gone to larger cities in search of job opportunities (Zuiches, 1981).

For real estate practitioners, these public opinion polls are only relevant to the extent that they are able to predict actual locational choices. Unfortunately, they have not done a very good job of predicting population mobility in the past. People have, until very recently, overwhelmingly chosen to live in the places that they profess to least prefer. Researchers have attempted to explain the discrepancy in a couple of ways. It has been suggested that perhaps the fault lies in the survey questions themselves. The main problem may be that the surveys wrongly assume that small towns and rural areas can only be found in nonmetropolitan counties. Those responding to the survey, however, do not always have this preconception. According to Zuiches:

A single, undifferentiated question on size-of-place preferred fails to capture the complexity of locational behavior. Such a question particularly fails to distinguish a key relational characteristic of places people claim to prefer, that is, the proximity to other places, especially to a large central city, but also to smaller or medium sized cities as well. The introduction of a distance-qualifier question also redefines the preference into a spatial framework that could be comparable to political or census definitions of geographic space, such as metro versus nonmetro counties. (Zuiches, 1981)

This deficiency was corrected in a statewide survey conducted in Wisconsin. When given the opportunity to express a preference for rural areas within 30 miles of a city having

greater than 50,000 inhabitants, over half of those preferring small towns and rural areas agreed to this qualification. The addition of this distance-qualifying question greatly reduced the apparent inconsistency of preference surveys. These results also correspond to results of the 1980 census, which identifies the fastest growing counties as those which are adjacent to metropolitan counties. This conclusion is further supported by studies conducted in Pennsylvania, Washington, Arizona, North Carolina, and Indiana (Zuiches, 1981). The common thread is a preference for living in a rural area within commuting distance of a larger place.

A closely related explanation for the discrepancy between stated preferences and observed behavior is the existence of economic constraints to living in rural areas. Lack of jobs and transportation expenses are two obvious examples of forces that may prevent people from acting on their preferences. But yet, it has been observed that, "over the life cycle, an increased congruence between preferred and actual location seems to be taking place." (Zuiches, 1981) This may be the result of persons migrating to rural areas at retirement, when job prospects and commuting problems are not a consideration. If this is so, it may mean a tremendous upsurge in migration to smaller communities as baby boomers approach their retirement years.

A third explanation for the failure of preference surveys

to predict actual mobility is that people do not always do what they say they would do. The level of thought required to answer a 30 second survey may be quite different from the decisionmaking process one goes through prior to making a life-changing move.

CHAPTER 3: EXPLAINING GROWTH

What are the theories that have been offered to explain what has been happening to small towns and rural areas across the country? Nine are mentioned most often:

1. Growing numbers of retirement age persons with greater flexibility afforded by large pensions and social security payments have chosen to migrate to small towns.
2. Footloose manufacturing jobs migrate to areas with lower wages and unionization.
3. People migrate toward areas with greater natural amenities.
4. People move to those areas with more conservative values that are perceived to be better places to raise a family.
5. The search for affordable housing results in more commuting from small towns and rural areas.
6. Less crime and congestion pulls migrants from the cities.

7. Lower taxes create incentives to migrate to small towns.
8. A decentralized system of state and community colleges has brought cultural and recreational opportunities to small towns, attracting new residents.
9. Better infrastructure and provision of utilities have made rural areas more comfortable and convenient.

Each of these theories is addressed in more detail below as each one is turned into measurable variables. In Chapter 3, these nine factors will be tested for their ability to explain and predict small town growth in Massachusetts. In Chapter 4, their ability to predict real estate values will be tested.

SPECIFYING AND MEASURING THE DEPENDENT VARIABLES

This thesis is primarily concerned with predicting the growth of small towns. If a town begins to grow unusually fast, land is developed, and vacant land becomes increasingly scarce. This then leads to a bidding up of land prices. The greater the pressure for development and land use changes, the more prices will react. Rapid population growth also often

leads to housing shortages. Generally, new construction accounts for only 2-3% of the housing stock. Because of this inelasticity in the supply of housing, demand determines most of the fluctuation in prices. National housing price increases between 1970-77 support this reasoning. During that period, nonmetropolitan home values increased 149% compared to an increase of only 110% in metropolitan areas, where population growth was slower (Thompson, 1981).

In my statistical analyses in Chapter 3 I use both the absolute level of population growth and the ten year growth rate as dependent variables. Absolute growth levels are computed by simply subtracting the 1970 census population from the 1980 census population. Percentage growth is computed by dividing the 1980 census population by the 1970 census population, subtracting one, and multiplying by 100. Percentage levels of growth are also calculated in similar fashion for the 1980-85 period giving a third dependent variable. In Chapter 4, the analysis will attempt to explain percentage change in property values and rents as the dependent variables. Variations in the rates of percentage change in these dependent variables will be explained for the 1970-80 period.

SPECIFYING AND MEASURING THE INDEPENDENT VARIABLES

As the range of competing theories indicates, many forces may be at work in determining growth, and the interaction between these variables can be quite complex. My purpose is to determine the most salient of these, and based on them, to allow developers and investors to more accurately predict population and property value movements in small towns. The literature offers a number of theories to explain what is happening to small towns and rural areas across the country, and the most commonly offered theories form the framework around which the independent variables are grouped. I limit the variables used to test each theory to those for which published data are available. The explanations to be tested are examined in detail below.

Theory 1: Migration after Retirement

According to this theory, the presence of older residents should be associated with high growth. Those counties with over 15% of the population in the 60+ age bracket grew twice as fast as those counties with 10-14% in the 60+ category, and four times as fast as those with less than 10% (Bradshaw and Blakely, 1979, p.25). Although the mobility rate for persons

65 and over historically has been lower than for any other age group, that number has increased during recent years.

Additionally, when they do move, those in the 65+ age group are more likely to chose a nonurban location than any other age group (Brown, 1983, p.65). Increased pensions and Social Security payments indexed to inflation are thought to play an important role in retiree mobility. Studies show that affluent and well-educated retirees are the most likely to move from their hometowns (Edmondson, 1987, p.26). In 1984, the average monthly pension and social security income for males over the age of 65 was \$1,023 (Bureau of the Census, 1984, p.9). This income, though seemingly small, affords greater flexibility to those of retirement age than existed in earlier decades. Moreover, people are also retiring earlier than ever. In 1970, 89% of men aged 55 to 59 were not in the labor force. By 1986, that number had decreased to 79% (Edmondson, 1987, p.24).

In Massachusetts, persons over 65 years of age make up a larger percentage of the population outside of SMSA's than they do inside SMSA's. If senior citizens can be considered to vote with their feet, in Massachusetts they prefer living in rural places of 1000 to 2500 inhabitants where they constitute 15.5% of the population.

The two variables used to examine the extent to which retirees influence small town growth will be the percent of

the town's population over the age of 65 as determined by the 1970 and 1980 censuses.

One may ask why I have not chosen to use the change in the percentage of persons over age 65 as the independent variable. While that may be useful in explaining growth over the period, it is less meaningful for the purpose of this thesis, however, which is to also predict growth. Ideally, I would like to be able to develop a regression equation that predicts growth in the 1970's based on what was observable in 1970, rather than an equation that in 1980, looks back over the prior decade and explains what occurred after the fact.

**Theory 2: Decentralized manufacturing and service sectors
bringing jobs to outlying areas**

Looking at a national sample of counties, Beale and Fuguitt (1979) determined that from 1950-70 the higher the percentage of the labor force employed in manufacturing occupation, the higher the rate of migration into (or the lower the rate of migration out of) these counties. During the 1970-74 period, this correlation weakened for counties with very high percentages of the labor force in manufacturing occupations, but remained strong for counties having moderate levels of manufacturing employment.

Historically, finding jobs in small towns has been a problem. As agriculture became mechanized and as the United States industrialized from what was initially an agrarian society, large numbers of people migrated from small towns and rural areas to cities promising greater opportunity. That has been changing recently.

Boston, for instance, lost 5,600 manufacturing jobs in 1987 alone. During a six month period in 1978 for which data are available, my sample of 97 small towns accounted for a full 25% of the new jobs created by the expansion of in-state firms within state. Yet the sample only accounts for about 11% of the state's population. (Executive Office of Economic Affairs, 1978) The report also indicates that when in-state firms located out of state, the most likely destination was a small town in New Hampshire.

During the 1970's, not only did small towns gain manufacturing jobs at a faster rate, they also had higher absolute percentages of their labor forces involved in manufacturing occupations. The highest such incidence was in places of 10,000 or more inhabitants lying outside of urbanized areas.

The migration of manufacturing jobs to outlying areas has been the result of a better labor climate, cheaper land, and favorable tax incentives. According to Bluestone and Harrison:

The ability to move managers and key components at nearly the speed of sound by jet, and to move money and the information needed to coordinate production at nearly the speed of light, enables capital, as never before, to go anywhere in the world. As that technology continues to improve, as the cost of transportation and information declines, the ability of all forms of industry to move and to locate wherever they can get even the smallest cost advantage will become a primary factor in a firm's location decision. (Herbers, 1986)

Since the 1980 Census, that cost advantage seems to have shifted back in the direction of metropolitan areas, not to the central cities or highly developed suburbs, but usually to the fringe areas of lowest density that have a "small town feel." This movement is an attempt to locate near the largest pool of highly trained, white collar workers. It is also an attempt to attract workers by locating in areas of natural scenery, open space and outdoor recreational opportunities.

John Kasarda reports:

A growing number of [research and office buildings] are located in bucolic, campus-like settings complete with executive clubs, restaurants, swimming pools, tennis courts, jogging tracks and other amenities attractive to contemporary, more leisure-oriented lifestyles (Herbers, 1986).

This type of office accommodation, given the high cost of urban land, can normally only be found in less densely settled areas. As businesses become increasingly footloose, they will follow where the highly trained labor force leads.

Well-educated, high income families are among the most likely candidates to move to nonmetropolitan areas. In any case,

small towns and rural areas are becoming less dependent upon metropolitan areas for their economic survival.

To test the role that the availability of jobs has on growth in Massachusetts small towns, I will examine several variables:

(1) 1978 unemployment rate. Ideally I would have preferred to use the 1970 rate to examine this factor's impact on growth during the 1970's . However, this information was not readily available. A low unemployment rate should be associated with population growth.

(2) Percent of 1978 labor force unionized. This is a measure of how favorable the local labor market is to potential employers. To many employers, unions represent high wages and loss of control over manufacturing processes and work rules. My expectation is that high levels of unionization will be associated with lower levels of growth. 1970 percentages were not available but I expect that this variable was quite stable over the decade. Data were taken from city and town monographs compiled by the Massachusetts Department of Commerce and Development.

(3) Percent of 1974 labor force employed in manufacturing occupations. If Massachusetts is like other parts of the country, those areas with a significant manufacturing base will show the highest growth.

(4) Percent of 1974 labor force employed in service sector

occupations. We are moving towards an information society and Massachusetts is thought by many to be at the forefront of this trend. In the Boston area, most new jobs being created are in the service sector. This variable is a proxy for measuring the importance of this sector on small town growth. A priori, I expect higher percentages of this variable to be associated with job growth and, taking it one step further, population growth.

(5) Median years of schooling (1970). The demands of the workplace are requiring an increasingly educated work force. Often, the location of a new plant is determined by the availability of a quality, local work force. Therefore, median years of schooling should be positively associated with growth.

Theory 3: Migration toward areas with natural amenities

A study conducted in the Midwest interviewed 501 households that had moved from a metropolitan area to one of 75 rapidly growing nonmetropolitan counties during the 1970-77 period. The authors of the study report:

Our most dramatic finding contradicts traditional migration studies that stress the importance of employment to migration. Based on probing interviews about why people move, we found instead an emphasis on quality of life (Lessinger, 1986).

This conclusion is supported by a study conducted in rural Mohave County, Arizona which found that "environmental pull" was the reason why 61% of the respondents lived there, compared to only 17% who cited job factors (Kim, 1986, p.13).

Lessinger (1986) credits the turnaround largely to greater opportunities for "self-fulfillment" in rural areas and small towns where "gifts bestowed by nature--sumptuous scenery and sheer space--substitute for expensive goods and services made necessary by the artificialities of urban life." He continues:

Self-fulfillment comes easier at the foot of a blue-grey mountain and a few strides from a creek...[and] thrives in the intimacy of small rural areas where people call each other by their first names, within jogging distance to forests, mountains and rivers, where most everyone hikes, swims, camps, and skis... (Lessinger, 1986).

It is true that outdoor recreation has become more and more popular as incomes, leisure time and the number of young adults have increased. The trend is obvious in Massachusetts which is ranked ninth nationally in the number of recreational visitors to National Park Service areas. In 1982, the Cape Cod National Seashore alone generated over four million visitors (Travel Trends, 1984).

To test the role that natural amenities and outdoor recreational opportunities play in Massachusetts small town growth, I have examined five variables:

(1) Seacoast dummy variable. All those towns on the seacoast

registered a 1 on this measure.

(2) Tourist attraction index. This 1970 index, created by the Massachusetts Department of Commerce and Development, gives each town a score based upon the number of different types of recreational activities that are found there. The index is weighted toward outdoor recreation activities, and I hypothesize that it will be positively associated with growth in small towns.

(3) Ratio of square miles water to square miles land. Water is a highly desired amenity as evidenced by the prices that people are willing to pay for waterfront property. It is also required for several popular recreational activities.

(Reservoirs are included in this variable because of the views that they provide, even though recreational use of them may be restricted.) I expect that those areas with a higher ratio of water to land will show higher levels of growth.

(4) Square miles of water. The rationale for this variable is similar to the one given above. This variable, however, is more appropriate for measuring the correlation with raw growth rather than percentage growth.

(5) 1978 number of hotel and motel rooms. Data were obtained from a publication of the Department of Commerce and Development. This variable serves as a proxy for the attractiveness of the area to outside visitors. In small towns, I assume that natural amenities will be the primary

attraction for outside visitors. Generally speaking, one would expect that those areas having the most motel rooms in 1978 would also have had the most rooms in 1970.

Theory 4: Conservative values/better place for raising a family.

It is generally accepted that the two socio-economic groups most often migrating to small towns are young families and retirees. Both of these groups have a tendency to hold what can best be described as conservative values. According to Herbers, conservatism is blossoming in "virtually all the new growth areas of low density, whether in New England, the Middle West, the South, or the West." (Herbers, 1986, p.37) More than nearby metropolitan areas, these places were likely to give Republicans a mandate in the 1980 and 1984 elections, embracing Ronald Reagan's vision of reduced government involvement, closely-knit families, volunteerism, and conservative values on such issues as prayer in schools, equal rights, and abortion (Herbers, 1986, p.182).

The popular press has reported that the country as a whole may be moving toward a lifestyle that is more compatible with small town values. A recent special report on a national news broadcast suggested that the drive to get ahead is being

replaced by a re-examination of values. Attitudes are changing. People are less certain that climbing the corporate ladder is really worth it. More marriages are occurring and church attendance and volunteerism are up. The same current of thought can be found in many newspaper headlines. A Wall Street Journal headline reads "Young and Old Alike Can Lead Lonely Lives in New U.S. Suburbs." The article examines the rootlessness and insular way of life that is so pervasive in today's suburbs. To fill the void, the article reports, "many people cling to their old communities in faraway places."

(Morris, 1987) Another Wall Street Journal article declares there is

...a disappearing sense of community. Neighbors no longer share common aspirations or values. Struggling just to maintain their standard of living, people don't have time for their families, let alone their neighbors (Kotlowitz, 1987).

In many suburban communities, "neighbors hardly know one another."

USA Today reports that "if you grew up in a small town or live in one now, your sense of community is stronger." The article quotes the following statement by John Dovidio, a psychology professor at Colgate University.

There is too much density and too little privacy for neighbors to form a sense of 'we-ness' in urban areas...People are overstimulated in an urban environment. They have to block out excess stimuli, and these often turn out to be the needs of others (Peterson, 1984).

Many people have romantic visions about life in small

towns. Blue Highways, a recent book about one man's travels across the backroads of America, deals with the author's fascination with rural areas; the topic caught on enough to make the book a New York Times best seller. Indeed, the fondness for the rural roots of America is even found in the lasting popularity of the "farmhouse" genre of residential design.

Because of this fondness, people who left for the cities in earlier decades are making their way back. Flittie (1978) found that 20% of recent migrants to Southeastern towns of 2,500 or less had lived in the general area during their first 12 years of life. In the same study, it was found that for 42% the greatest satisfactions of small town living were the friendliness and feeling of being at home. Another 34% reported that the pace, security, quietness, or fitness for raising a family were the greatest attractions.

Many are returning in hopes of finding a better place to raise families. Herbers recounts the following narrative he heard at his high school reunion in a small Tennessee town.

I remembered growing up here and how different my early life had been from those of my children. Here, a child was in many ways independent at an early age. There was little supervised play. Except when in school or performing chores at home we were free to roam from dawn to dark and develop our own relationships with others. At ten or twelve we could explore deserted houses, follow the railroad tracks as far as endurance would allow, hang out at the sawmill, find new swimming holes, swing from muscadine vines, and play in sandlot sports. As long as we were home by supper, as we

almost always were, not too many questions were asked. The worst fear for parents was perhaps a snakebite or broken limb, mishaps that were accepted as a normal part of growing up. The wandering child with curiosity would invariably know who lived in every house on every block, whether they were rich or poor (Herbers, 1986).

Contrast this story to today's suburbs which are hard on kids...and mothers. Alexander points out that many suburban areas are lacking in common land where children can play or even find one another.

If children are not able to explore the whole of the adult world round about them, they cannot become adults. But modern cities are so dangerous that children cannot be allowed to explore them freely (Alexander, 1966).

In today's suburbs with the preponderance of working women, many children are being raised in day care centers. This presents a new problem for those women who remain at home with their children. These women are becoming more isolated in the suburbs, and it has become more difficult to find playmates for children within the neighborhood. Perhaps partly in response to this, more young families are moving to small towns where female participation rates in the labor force tend to be lower.

Operationalizing such concepts as "sense of community," "conservative values," and "fitness for raising families," can be quite difficult. However, several indices might shed light on the general trend and on whether this general trend is in fact influencing growth. These indices are:

- (1) 1970 percent of housing units that are owner occupied. Homeowners, as opposed to renters, tend to be a more stable group and have more ties to the area. Migrants searching for a sense of "community" or "place" should, therefore, be more likely to locate in areas with more owner-occupied housing.
- (2) Ratio of Republican to Democratic registered voters in 1970. Republicans tend to have more conservative values on social issues. If migrants to nonmetropolitan areas are looking for a conservative lifestyle, they are likely to locate in areas where the residents hold similar values. This variable should be positively associated with growth.
- (3) 1978 Crime rate per 1000 residents. I expect that migrants looking for the ideal place to raise children will consider the crime rate when making a location decision. The relationship with growth should be negative.
- (4) 1969-70 school expenditures per pupil (where available, in other cases 1970-71). This variable gives an indication of a town's commitment to the education of its young people. High expenditures should be attractive to families with children, leading to growth.

Theory 5: The search for affordable housing

This theory implies that those moving to rural areas are really no different than city dwellers--they simply prefer to

consume more housing services than they can afford in the urban market. In 1987, Boston was the second most expensive housing market in the nation with a median sale price for existing single family homes of \$176,800. During the 1970's the dollar figure was substantially smaller, but there has always been a sizable gap between home prices in Boston (and other large cities in Massachusetts for that matter) and the prices for homes in outlying areas. As home prices shot out of reach in Boston, many moved to Providence, Rhode Island, for a cheaper home with a longer commute. The strategy was so popular that Providence experienced the highest percentage rise in home values of any city in the country. The same phenomenon, though probably to a lesser degree, may be going on in the rural, outlying areas of SMSA's in Massachusetts.

Three variables are examined to identify the importance of affordable housing to small town growth.

(1) 1970 median owner-occupied housing values. If the theory is correct, towns with the lowest housing values should experience the most growth.

(2) SMSA dummy variable. Towns scored a 1 on this measure if they are located within any of the state's ten SMSA's. If, in fact, migrants are coming to small towns simply to find affordable housing, chances are they will locate within the same SMSA in which their previous residence was located.

(3) Interstate location dummy variable. Towns are assigned a

value of 1 if they are the first town to be reached after exiting any interchange of a limited access highway.

Reasonable commuting areas are determined by time and distance. Interstate travel has greatly reduced the commuting time between remote areas of the state and SMSA's. One would expect, therefore, that location near these limited access highways is associated with growth.

Theory 6: Escape from congestion of the city

Two of the most often heard complaints of the suburbs are traffic congestion and the lack of open space. These themes recur in public zoning hearings across the country. Fishman (1987) observes that "every true suburb is the outcome of two opposing forces, an attraction toward the opportunities of the great city and a simultaneous repulsion against urban life." In recent years, the ills of urban life have found a home in the suburbs. No longer the quiet refuge, suburban areas have, in Herbers words, "become cities unto themselves." (Herbers, 1986)

Rural areas and small towns may be a further escape route. I have used three variables to determine the degree to which small town growth can be explained by a movement toward less densely populated areas.

(1) 1970 Density. This variable takes a town's census

population and divides it by the town's 1970 area in square miles. The lower the density, the higher the growth, if the theory is correct.

(2) 1974 vacant parcels. The previous variable is not be able to distinguish between towns having very large lot zoning and those with smaller lots but more open space. This variable is a measure of the total number of parcels upon which nothing has been built--presumably "open space." A large value for this variable should be associated with higher levels of growth. These data were taken from a report of the Massachusetts Department of Corporations and Taxation.

(3) Commercial parcels/Vacant parcels. This variable is a proxy for the degree of urbanization in a small town. Towns with a small value should have a more rural character and, therefore, experience more growth.

(4) Total parcels/land area of the town (inverse of average lot size). This variable serves as the best available index for the degree of parcelization in a town. The more a town has been subdivided, the more likely it is that the town has lost some of its rural character. This variable should be negatively associated with growth.

Theory 7: Lower taxes

Most people do not enjoy paying taxes. Period. The state

as a whole has a negative reputation in this regard that has earned it the nickname "Taxachusetts". The local growth policy committee for the town of South Hadley, for instance, cites among its major woes "economic liabilities inherent in being a town in the Commonwealth of Massachusetts (read high taxes)." The same committee in Dennis feels that the state's image "creates a negative economic environment." The attitude held by the town of Conway's Growth Policy Committee is characteristic of small towns:

The taxes must be kept down. The town cannot provide city services and people cannot expect to receive them.

Some towns, such as Charlton, explicitly recognize that their low tax rates are generating growth (Keefe, 1977). To test for the degree to which this is true, I have gathered data on two variables--the 1971 equalized tax rate (tax levy divided by equalized assessment) and the 1970 per capita tax levy. My hypothesis is that both taxation variables will be negatively associated with growth.

Theory 8: Increasing cultural attractions making rural life more acceptable

One of the age-old complaints about living in a small town is "nothing to do." That is changing very rapidly, leading some observers to conclude that rural and urban

cultures have essentially merged. As Long points out:

Individuals in a nonmetropolitan area can watch the same network TV programs, see the same national newscasts and sports attractions, read the same metropolitan newspapers, have access to myriad services through the same toll-free phone calls, receive the same mass advertising mail, subscribe to the same magazines, shop in the same national chains, either by mail or by a half-hour drive to a regional shopping center...As a result, migration to nonmetropolitan areas from metropolitan areas does not require the major cultural readjustments that earlier rural to urban migration did (Long, 1981).

An increasingly decentralized system of state college campuses and a rise in the number of community colleges have provided a broad range of cultural and recreational opportunities to small towns, particularly in Massachusetts. In many cases, the college campus has become a civic center for the entire community, providing libraries, theater, sports events, and arts festivals, to name just a few activities. Because of this role,

the 'cow colleges'...have become a magnet both for business and industry that have found it advantageous to locate in the towns where the universities are, and for people who want to escape the big urban areas but find most smaller places a little dull (Herbers, 1986).

To test this hypothesis, I will examine two variables.

(1) College dummy variable. Those towns that had a college or were very near to a college (as determined by the State Department of Commerce and Development, 1978 report) were assigned a 1 value. Those without a college in the immediate

vicinity were given a 0. Towns having colleges should have more cultural attraction and other events that make the town more interesting to migrants, therefore leading to more growth.

(2) Library holdings per capita. The attention given to the local library may be a proxy for the importance that the town places upon cultural and self-improvement activities and may also be associated with the number of 'well-read' residents. Those migrants who value a culturally attuned and literate social environment should be more likely to move to such areas.

Theory 9: Improvements to infrastructure

Many rural areas lack public sewer and public water supply. *Ceteris paribus*, one would expect that the provision of such public utility services would be associated with growth since it makes previously undevelopable land developable. A public water supply also saves the expense of a private well, which can cost a family thousands of dollars to drill. Likewise, sewer lines and waste treatment plants may be required before industry will consider locating in a town. The existence of these two utilities should be positively correlated with growth. The two variables used are:

(1) The percentage of the population served by sanitary sewer in 1978.

(2) Public water supply dummy. Data for this and the previous variable were provided by the Department of Commerce and Development and from published regional planning documents.

SAMPLE TOWNS

Ninety-seven Massachusetts towns are included in the study. Towns were initially selected at random--each town with an equal chance of being chosen. Then, two towns located in highly urbanized Suffolk county and those having populations over 20,000 were discarded. Forty-five of the towns are located within SMSA's. For a geographical distribution of sample towns, see Figure 1.

Data for certain key variables were not available for all towns, especially the smallest ones. Rather than forgoing an analysis of the impact of these variables, it was necessary to create a subsample of the towns for which all variables were available. I call this Subsample L because it includes the larger small towns; 45 towns, none of which have less than 2,500 residents. Because the towns included in Subsample L differ from the larger sample in significant ways, results

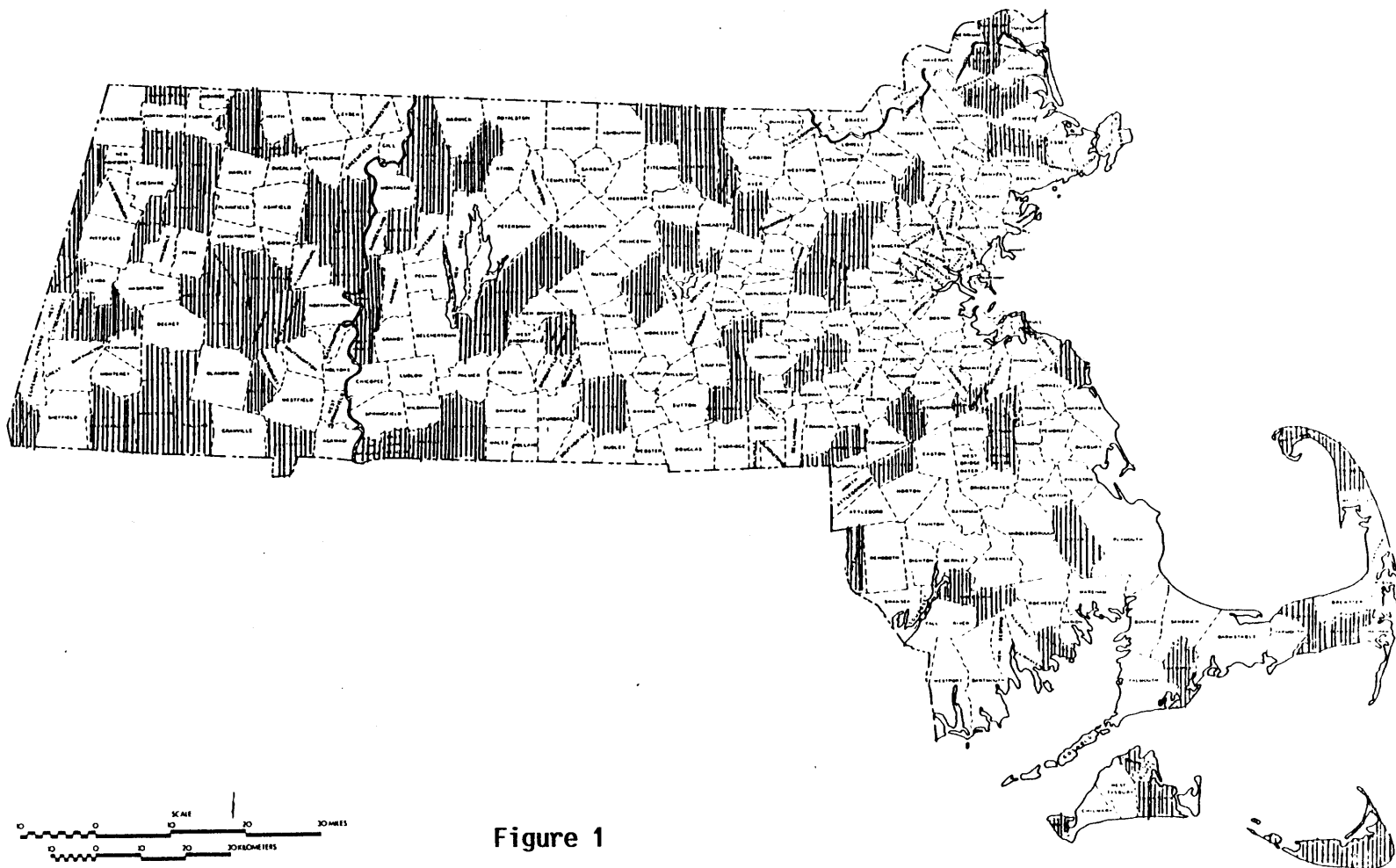


Figure 1

cannot be generalized to the entire universe of small towns under 20,000. The mean population in this subsample was 8,627 in 1970, rising to 9,226 in 1980, and falling to 9,118 in 1985. In contrast, the average town in the full sample had a 1970 population of only 5695, growing to 6248 in 1980, and 6274 in 1985.

During the 1960's, Subsample L experienced 36% growth compared to only 29% for the full sample. However, this pattern reversed itself in the 1970's when the average town in the full sample grew twice as fast as the average town in Subsample L. From 1980 to 1985, on the other hand, the growth rate for the full sample was only 1.2% for the full sample and it was negative -0.9% for Subsample L.

I have also chosen to create a "Subsample S", containing 33 towns for which full data were not available. Since these towns tended to be very small (average 1970 population: 4,665; 1980 population: 5,374; 1985 population: 5,587), I was interested in comparing their population dynamics with those of Subsample L.

Towns in Subsample S, unlike the full sample and the other subsample, experienced higher rates of growth in the 1970's than in the 1960's. Fifty percent of the towns in this subsample enjoyed three consecutive periods of positive growth rates, through the 60's, 70's, and 80's. In contrast, only 22% of Subsample L showed the same Growth/Growth/Growth

pattern.

At this point it should be noted that the term "turnaround" cannot be used to explain the experience of Massachusetts small towns in the same sense that the term is used for the country as a whole. As explained earlier, much has been written nationwide about declining areas that have experienced "turnarounds" and are now growing. In Massachusetts, one can still use the term but here the turnaround is in the opposite direction! Since 1960 more towns have gone from growth to decline than vice versa. In Subsample L, 71% of the towns had "reverse turnarounds." Even in Subsample S, 30% of towns showed this pattern. These small towns can take heart, however--growth is still slower in the cities.

CHAPTER 4: STATISTICAL ANALYSIS OF MASSACHUSETTS SMALL TOWN GROWTH

TESTING THE EXPLANATORY POWER OF EACH GROWTH THEORY

Careful examination of the bivariate correlation coefficients (r) given in Table 5 provides a first indication of each theory's relative importance in determining percentage growth in small towns. Independent variables are grouped according to the theory they represent.

The first result that stands out is the consistency of the variables within the "amenities" and "low density/open space" categories. In each category, the independent variables have the expected signs. Within the "amenities" category, the number of motel rooms is the variable most strongly correlated with percentage population growth, although other independent variables also show significant correlations. Within the "low density/open space" category, the number of vacant parcels is most closely associated with growth. The "retirement" theory is also supported by a strong correlation coefficient in the expected direction.

Inconsistent results were obtained within all other

TABLE 5: CORRELATION MATICES--percentage population growth 1970-80
with independent variables

THEORY	INDEPENDENT VARIABLE	CORRELATION COEFFICIENT	EXPECTED SIGN
Retirement	% population over 65 (1970)	+.30	Positive
Jobs	% Unionized (1978)	-.22	Negative
	% Mfg occupations (1974)	-.37	Positive
	% Service occupations (1974)	+.05	Positive
	Unemployment rate (1978)	+.26	Negative
	Median school years (1970)	-.06	Positive
Amenities	Water area/Land area	+.05	Positive
	Tourist attraction index	+.31	Positive
	Seacoast dummy	+.32	Positive
	# of motel rooms (1978)	+.55	Positive
	Water area	+.23	Positive
Conservative Values/Family	% owner occupied hsg (1970)	-.09	Positive
	Republicans/Democrats (1970)	+.16	Positive
	School expense per pupil	+.08	Positive
	Crime rate (1978)	+.31	Negative
Affordable Housing	Median home value (1970)	-.06	Negative
	Median rent (1970)	-.03	Negative
	Interstate dummy	.00	Positive
	SMSA dummy	-.36	Positive
Low Density & Open Space	Density (1970)	-.32	Negative
	Vacant Parcels (1974)	+.39	Positive
	Commercial/Vacant Parcels	-.12	Negative
	Parcels/Land area (1974)	-.11	Negative
Taxes	Tax rate (1971)	-.33	Negative
	Per capita tax levy (1970)	+.29	Negative
Culture	College dummy	+.11	Positive
	Library volumes per capita	-.13	Positive
Infrastructure	Sewer coverage	-.18	Positive
	Public water dummy	+.12	Positive

categories. The "jobs" theory is supported by the expected negative correlation of unionization and growth. But, unemployment and percent manufacturing occupations were correlated with growth in directions opposite of what was expected.

The "conservative values/fitness for family" category was equally inconclusive. Crime is the only variable strongly associated with growth but the correlation is in the wrong direction! The only highly correlated variable within the "affordable housing" category, the SMSA dummy, is also correlated in the wrong (negative) direction. This independent variable turns out to be a poor measure of the importance of commuting from low housing cost areas. Instead, it seems to be picking up on the positive correlation between being an outlying town in a SMSA and being more densely populated than those towns not in SMSA's. Since towns in SMSA's are generally denser than the average small town, it is not surprising that they would grow more slowly.

MULTIVARIATE MODELS--BY VARIABLE CATEGORY

To get a better picture of how well each theory does in predicting growth, regression equations were generated using each set of independent variable (See Table 6). Again, it can be seen that the "amenities" variables and "low density/open

TABLE 6: REGRESSION EQUATIONS FOR EACH SET OF VARIABLES.

	R E T I R E M E N T	J O B S	A M E N I T I E S	C O N S E R V A T I V E	A F F O R D A B L E	D E N S I T Y	T A X E S	C U L T U R E	I N F R A S T R U C T U R E
% population over 65 (1970)	X	.	.	.	.	.	.	.	.
% Unionized (1978)	.	X	.	.	.	.	.	.	.
% Mfg occupations (1974)	.	X	.	.	.	.	.	.	.
% Service occupations (1974)	.	X	.	.	.	.	.	.	.
Unemployment rate (1978)	.	X	.	.	.	.	.	.	.
Median school years (1970)	.	X	.	.	.	.	.	.	.
Water area/Land area	.	.	X	.	.	.	.	.	.
Tourist attraction index	.	.	X	.	.	.	.	.	.
Seacoast dummy	.	.	X	.	.	.	.	.	.
# of motel rooms (1978)	.	.	X	.	.	.	.	.	.
Water area	.	.	X	.	.	.	.	.	.
% owner occupied hsg (1970)	.	.	.	X	.	.	.	.	.
Republicans/Democrats (1970)	.	.	.	X	.	.	.	.	.
School expense per pupil	.	.	.	X	.	.	.	.	.
Crime rate (1978)	.	.	.	X	.	.	.	.	.
Median home value (1970)	X	.	.	.	.
Median rent (1970)	X	.	.	.	.
Interstate dummy	X	.	.	.	.
SMMA dummy	X	.	.	.	.
Density (1970)	X	.	.	.
Vacant Parcels (1974)	X	.	.	.
Commercial/Vacant Parcels	X	.	.	.
Parcels/Land area (1974)	X	.	.	.
Tax rate (1971)	X	.	.
Per capita tax levy (1970)	X	.	.
College dummy	X	.
Library volumes per capita	X	.
Sewer coverage	X
Public water dummy	X
R SQUARED	0.30	0.20	0.41	0.10	0.21	0.45	0.23	.05	.04

space" variables have the most explanatory power, each group being able to explain over 40% of the variation in the rate of small town growth. The next most important categories in descending order are "taxes", "affordable housing", "jobs", and "conservative values". "Cultural opportunities" and "infrastructure" do not seem to have a strong effect upon small town growth. However, these results were obtained from a subsample of towns for which full data were available and, as explained earlier, this subsample differs in significant ways from the initial random sample of 97 towns. (More differences to be explained later.)

MULTIVARIATE MODEL--SUBSAMPLE L

From each set of independent variable except "infrastructure", which has very little explanatory power, the variable most strongly correlated with growth was rolled into one regression equation encompassing eight categories of variables. When the differences between the two highest correlation coefficients in each category were negligible, the variable that related to growth in the expected direction was included in the equation. The resulting regression equation is able to explain 61% of the variation in small town growth. However, the only variable that is statistically significant at the .05

level is the number of vacant parcels. The SMSA dummy variable has the lowest T-statistic by far. This was also the only variable included in the multivariate equation whose bivariate correlation with growth was in the unexpected direction.

After dropping "SMSA" from the equation and adding "density" in its place, R squared jumps to .66. It was possible to drop three more variables, while only reducing the R squared to .65. This model specification is given in Table 7. In this final equation, the signs are all as expected. Two variables, both drawn from the "low density/open space" category, are statistically significant at the .01 level. None of the other variables are significant at even the .05 level.

The regression results imply that low density and open space are major determinants of small town growth. According to the model, each additional 100 parcels of vacant land (open space) increases growth by 1.16 percentage points. Each additional 10 persons per square mile (density) decreases the growth projection by 7/10 of one percentage point.

One danger at this point is the possibility that certain variables may be highly correlated with one another (multicollinearity). If this is so-- that is, if each independent variable is not measuring a unique dimension of small town growth-- then it becomes impossible to isolate with

TABLE 7: MULTIVARIATE REGRESSION MODEL--Predicting percentage growth for Subsample L Towns (1970-80)

Independent Variables: Population density (10s per square mile), % of Population over age 65, % of the labor force union
of vacant land parcels (in 100s), # of motel rooms (in 100s)

$$\begin{array}{lcl}
 \text{Percent Growth} & & \\
 \text{in Population} & = & -.07 \quad - (.08 \times \text{Density}) + (.67 \times \% \text{ Age } 65) - (.39 \times \% \text{ Unionized}) + (1.16 \times \text{Land}) + (.84 \times \text{Rooms}) \\
 \text{1970-80} & & \\
 & & \text{Over} \qquad \qquad \qquad \text{Vacant} \qquad \qquad \text{\# Motel} \\
 & & \qquad \qquad \qquad \text{Parcels}
 \end{array}$$

*

Notes: * Coefficient Significant at the .10 Level
 ** Coefficient Significant at the .05 Level
 *** Coefficient Significant at the .01 Level

certainty the role that each variable plays in explaining or predicting growth. The best way to investigate the possibility of multicollinearity is to create a cross-correlation table. Those independent variables that move in step with other independent variables will exhibit a high correlation coefficient. In such cases, the individual impact of these variables on small town growth will be unclear unless all but one of the highly correlated variables are dropped from the model specification.

The previous model was tested for multicollinearity. Two of the variables, % of the labor force unionized and density, have no strong cross-correlations, allowing a clear interpretation of the impact of these variables. The number of motel rooms, number of vacant parcels, and percentage of persons over age 65 are slightly collinear, however not sufficiently related to warrant excluding one or more of these variables from the specification.

MULTIVARIATE MODEL--FULL SAMPLE

The previous model specification, which only applied to a subset of sample towns, had the benefit of data that were not available for the entire sample. In order to develop a more

general mathematical model for small town growth, including the smallest of towns, it will be necessary to work with a different set of variables. Table 8 provides a model that explains over 50% of the variation in percentage growth for the full sample of small towns. As in the previous specification, the correlation between vacant land parcels and growth is statistically significant at the .01 level in the positive direction. Each additional 100 parcels of such "open space" is associated with over 2.5 percentage points in additional growth. The size of the town in 1970 is also statistically significant at the .01 level. During the 1970's, percentage growth in a town with 1,000 inhabitants was 3 percentage points higher than a town with 2,000 inhabitants, all other things being equal.

Three variables having signs in the unexpected direction were significant at the .05 level. The per capita tax levy is positively associated with growth. Although, as a whole, small towns abhor high taxes, the new migrants seem to be willing to pay for the services that taxes provide. Manufacturing employment is negatively related to growth. This may be due to the deleterious effects that manufacturing plants have upon the visual environment, or simply because other employment sectors are expanding more rapidly in small towns.

It is interesting to note that although a seacoast

TABLE 8: MULTIVARIATE REGRESSION MODEL--Predicting Raw and Percentage Growth for the Full Sample (1970-80)

$$\begin{array}{lcl}
 \text{Raw Growth} & & \\
 \text{in Population} & = & 16.24 + (3.63 \times \text{Tax}) + (97.27 \times \text{Land}) - (3.31 \times \text{Per Sq.}) + (343.63 \times \text{Dummy}) - (764.62 \times \text{Coast}) \\
 \text{1970-80} & & \begin{array}{c} \text{Per Cap} \quad \text{Vacant} \quad \text{Parcels} \quad \text{Freeway} \quad \text{Sea} \\ \text{Levy} \quad \text{Parcels} \quad \text{Mile} \end{array} \\
 & & \begin{array}{c} *** \quad \quad \quad ** \quad \quad ** \\ \\ \\ \\ \\ \end{array} \\
 & & \begin{array}{c} \% \\ - (1.52 \times \text{Mfg.}) - (40.43 \times \text{Pop.}) \\ \text{Emp.} \end{array} \\
 & & **
 \end{array}$$

$$\begin{array}{lcl}
 \text{Percent Growth} & & \\
 \text{in Population} & = & 17.10 + (.48 \times \text{Tax}) + (2.64 \times \text{Land}) - (.11 \times \text{Per Sq.}) - (7.30 \times \text{Dummy}) - (31.46 \times \text{Coast}) \\
 \text{1970-80} & & \begin{array}{c} \text{Per Cap} \quad \text{Vacant} \quad \text{Parcels} \quad \text{Freeway} \quad \text{Sea} \\ \text{Levy} \quad \text{Parcels} \quad \text{Mile} \end{array} \\
 & & \begin{array}{c} ** \quad \quad *** \quad \quad \quad ** \\ \\ \\ \\ \\ \end{array} \\
 & & \begin{array}{c} \% \\ - (.19 \times \text{Mfg.}) - (2.98 \times \text{Pop.}) \\ \text{Emp.} \end{array} \\
 & & \begin{array}{c} ** \quad \quad *** \end{array}
 \end{array}$$

Notes: * Coefficient Significant at the .10 Level
 ** Coefficient Significant at the .05 Level
 *** Coefficient Significant at the .01 Level

location is positively correlated with growth in a bivariate relationship ($r = +.32$), once one controls for such variables as population and the amount of open space, the seacoast has a statistically significant negative effect upon growth! This result may be explained by the fact that most seacoast property in Massachusetts has been developed for quite a long time, allowing less new growth to occur there. Development in the interior of seacoast towns, on the other hand, does not share the same attraction as beachfront property. One may conclude that the rapid growth experienced in Cape Cod, for instance, is the result of low density, not the seashore. Increased parcelization and the presence of freeway access also prove to be a detriment to growth, although neither of these variables is statistically significant.

The same model specification is able to predict 45% of the variation in raw growth. Looking at this regression equation, one finds the same sign for each variable except the "freeway" variable. Since the sign for this variable is negative when population growth, the dependent variable, is expressed in percentage terms, but significantly positive when growth is expressed in raw terms, one may reasonably hypothesize that freeways contribute to the growth of larger places, but not to the growth of smaller ones. This hypothesis is consistent with a nationwide study that found interstates are least likely to be associated with growth in

"remote, purely rural counties". (Briggs, 1983, p.85)

The amount of vacant land, initial population, and presence of a seacoast continue to be statistically significant when raw growth is the dependent variable. However, the per capita tax levy and percentage of labor force in manufacturing lose their statistical significance.

How stable are growth trends in Massachusetts small towns? The correlation coefficient relating growth in the 1960's to growth in the 1970's indicates a purely random relationship. However, growth in the 1970's has been much more closely correlated with growth in the first five years of the 1980's ($r = +.48$). Table 9 provides a summary of how growth in the 1970's compares to growth in the 1980's.

MULTIVARIATE MODEL--FULL SAMPLE: GROWTH IN THE 1980'S

In building the model for predicting growth in the 1980's, I selected the two most salient, full sample predictors of growth in the 1970's (vacant parcels and initial population), combined these with the most promising variables as indicated in bivariate correlations with percentage growth 1980-85 (See Table 10), and added the variable percentage growth in the 1970's as the final variable. A complete specification for this model is given in Table 11. The model is able to explain over 55% of the variation in small town

TABLE 9: COMPARISON OF GROWTH IN THE 1970'S WITH GROWTH IN 1980-85:

Correlations of Percentage Growth With Independent Variables for 1970-80 and 1980-85

	1970-80		1980-85
	-----		-----
<u>Physical Character</u>			
Interstate dummy	.00		-.04
Seacoast dummy	+.32		+.22
SMSA dummy	-.36		-.14
Water/Land Ratio	+.05		+.06
<u>Demographics</u>			
1970 Population	-.41	1980 Population	-.11
1970 Density	-.32	1980 Density	-.13
1970 % Over Age 65	+.30	1980 % Over Age 65	+.10
1970 #Rep./#Democrats	+.16	1984 #Rep./#Democrats	+.14
<u>Real Estate Market</u>			
1970 Median Rent	-.03	1980 Median Rent	+.21
1970 Median Prop. Value	-.06	1980 Median Prop. Value	+.06
1970 Housing Vacancy Rate	+.49	1980 Housing Vacancy Rate	-.38

TABLE 10: MULTIVARIATE REGRESSION MODEL--Predicting Percentage Population Growth for the Full Sample (1980-85)

Independent Variables: Percentage Growth 1970-80, # of Vacant Land Parcels, 1980 Population, 1980 Median Contract Rent, 1980 Housing Vacancy Rate, % of Labor Force in Service Occupations, Ratio of Water Area to Land Area

Percent Growth in Population 1980-85	=	-8.96 + (.13 x Growth) 1970-80	+ (.10 x Land) Parcels	- (.31 x Pop.) 1980	+ (.19 x Service) %	+ (.35 x Rent) Median Exp.
		***		**		***
		%				
		- 1.74 x Housing) Vacancies	+ (.16 x Water/Land)			

Notes: * Coefficient Significant at the .10 Level
 ** Coefficient Significant at the .05 Level
 *** Coefficient Significant at the .01 Level

growth. This equation was tested for multicollinearity but no two variables were closely related. Therefore, no variables were dropped from the equation. Because 1985 population figures were obtained from the Massachusetts State Census rather than from the U.S. Census, I have slightly less confidence in this model as compared to those developed with growth figures based upon U.S. Census data.

Three of the independent variables are statistically significant at the .01 level--%housing vacancies (1980), median rent (1980), and percentage growth during the previous decade. As expected, towns with large stocks of vacant housing grew slowest. Each additional percentage point of housing vacancy lowers the growth estimate by $\frac{3}{4}$ of one percentage point. This relationship testifies to the inelastic supply of housing in small towns. Growing towns have shortages of housing as evidenced by extremely low housing vacancy rates.

Surprisingly, median rent is positively associated with growth. This result indicates that the upward pressure on prices in rapidly growing areas has a stronger effect than the natural tendency for people to avoid high rent towns, *ceteris paribus*.

Initial low population continues to be an important determinant of growth in the 1980's, although the level of significance drops from .01 to .05. The signs for the three

remaining variables, parcels of vacant land, ratio of water area to land area, and % of the labor force in service occupations are each in the expected direction, although none of them are statistically significant.

CHAPTER 5: SMALL TOWN REAL ESTATE MARKET MECHANICS

SUBSAMPLE S

An underlying tenet of this thesis is that by seeking out areas promising maximum growth, one can thereby maximize the returns from real estate. That presumption is supported in the aggregate. Overall, the towns in Subsample S experienced an average increase of 169% in median home values and 135% in median rents. These increases, as expected, are significantly greater than those found in slower growing Subsample L.

Contrary to my initial expectations, however, there is a weak link within subsamples between growth on the one hand and rent and property value increases on the other. Growth is able to explain only 21% of the variation in rent and only 4% of the variation in housing values.

The relationship between growth and real estate values is stronger within Subsample L. Along the same lines, conventional wisdom concerning the urban land market dictates that city growth and property value increases go hand in hand. What seems to be emerging, then, is a pattern whereby growth has less and less to do with real estate values as the absolute size and density of the town decreases.

This conclusion makes intuitive sense. According to land

economics theory, the price differential between land in the city center and land on the fringe is due to commuting costs. In other words, the price of land at the center equals the price of land at the fringe plus commuting costs, with a smooth continuum in between. Therefore, ceteris paribus, any new land that is developed at the fringe begets higher land prices everywhere else within the city. Now, assume that two towns, one having a radius of two miles and the the other having a radius of five miles, each expand by one mile in all directions. Commuting costs for new residents in the larger town will rise proportionately greater than they will in smaller towns in relation to existing residents. Because traveling that extra mile is more costly due to congestion in larger cities, the value of all property more proximate to the city center will rise faster. Moreover, the one mile expansion that I am hypothesizing creates higher percentage growth in small towns. Consequently, for any given percentage growth, real estate values should respond more favorably in larger towns.

To further test the hypothesis that smaller towns experience smaller increases in property values for any given level of growth, I have created a new independent variable, "raw growth 1970-80/area in square miles". This variable, compared to percentage growth, is a purer measure of the spatial pressure and competition for land that growth creates.

A priori, I expect that for any given level of spatial pressure, the reaction of real estate values will be greater in larger towns. The results confirm my hypothesis. Rent is far more responsive to spatial pressure in Subsample L ($r = +.41$) than in Subsample S ($r = +.18$). The relationship between housing prices and spatial pressure is also stronger in Subsample L ($+ .30$) than in Subsample S ($+ .27$). Another possible explanation for the low correlation between growth and increasing property values is that the relationship may be lagged somewhat. It is generally recognized that property is transferred less frequently in rural areas. Consequently, it may take more time for the market to react to increasing demand.

Prediction of Rents

Within the full sample of small towns (all of which have less than 20,000 inhabitants), the highest growth rate is found in the smallest of these, generally having populations of less than 2,500. Consequently, these towns may hold the most promise for real estate investors and developers. While raw growth is certainly of interest to real estate developers so far as determining the amount of new product that the market can absorb, it is the growth rate that best determines the percentage increase in property values and rents.

Developers may be able to make higher total profits in towns having more raw growth by doing larger developments, but the return on investment is likely to be highest where percentage growth is highest.

The most meaningful question to be considered now is: Within this group of most rapidly growing towns, what factors can be examined at the beginning of a ten year period that might predict rent and property value fluctuations through the ensuing decade? The regression equation given in Table 11 has the power to predict 50% of the movement in rents from 1970 to 80. By far the most important component of the equation is the 1970 rent level, which is negatively correlated with growth at the .01 level. Low rent towns showed the highest percentage increase in rent. For every \$10 per month lower the initial rent level, one can expect the rent increase to be 14 percentage points higher. The presence of a freeway interchange is also correlated with rent increases, although it falls just short of being significant at the .05 level. The increase in rents in towns having access to a freeway was almost 22 percentage points higher than towns without the benefit of a freeway. All other variables except tax rate are significant at the .10 level.

As expected, rents increase faster in areas that enjoy the positive externalities of high value owner-occupied housing. Each additional \$1,000 in average owner-occupied

TABLE 11: Multivariate Regression Model--Predicting Percentage Rent Increases for Subsample S Towns (1970-80)

Independent Variables: 1971 Equalized Tax Rate, 1970 Median Owner-Occupied Property Value (1000s), 1970 Per Capita Tax Levy (10s),
1970 Median Contract Rent (10s per month), Freeway Location Dummy

$$\begin{array}{lcl} \text{Percent Increase} & & \\ \text{in Median Contract} & = & 169.8 + (.33 \times \text{Tax Rate}) + (2.33 \times \text{Property}) + (.94 \times \text{Tax Levy}) - (14.11 \times \text{Contract}) + (21.53 \times \text{Dummy}) \\ \text{Rent 1970-80} & & \end{array}$$

Property
Median
Per Capita
Median
Freeway
Value
Rent

*
*

*

TABLE 12: Multivariate Regression Model--Predicting Percentage Increases in Owner-Occupied Property Values for Subsample S Towns (1970-80)

Independent Variables: 1971 Equalized Tax Rate, Parcels Per Square Mile (10s), 1970 Per Capita Tax Levy (10s), 1970 Median Contract Rent, Interstate Dummy,
SMSA Dummy

$$\begin{array}{lcl} \text{Percent Increase} & & \\ \text{in Median Owner-Occupied} & = & 142.75 + (1.01 \times \text{Tax Rate}) - (14.01 \times \text{Sq. Mi.}) + (1.59 \times \text{Tax Levy}) - (5.53 \times \text{Contract}) - (19.99 \times \text{Dummy}) + (40.37 \times \text{Dummy}) \\ \text{Property Values} & & \\ \text{1970-80} & & \end{array}$$

Property
Parcels Per
Per Capita
Median
Freeway
SMSA
Value
Sq. Mi.
Rent

**

**

Notes: * Coefficient Significant at the .10 Level
 ** Coefficient Significant at the .05 Level
 *** Coefficient Significant at the .01 Level

home values creates a two percentage point increase in the growth of rents over the decade. Unexpectedly, rising rents, as measured by the 1971 tax rate and 1970 per capita tax levy, are positively associated with property taxes, possibly due to the extra services provided and possibly because an additional return is demanded by landlords when the tax burden is relatively higher.

Prediction of Property Values

The same regression equation does a very poor job of predicting movements in home values, however, suggesting that different market forces determine movements in rents and home values. The equation can only explain 16% of the variation in property value growth rates. Prediction power improves significantly to 46% with the addition of variables that account for location within a SMSA and for the number of parcels per square mile. This model is shown in exhibit 12.

Four variables are statistically significant at the .01 level--SMSA dummy, median rent, per capita tax levy, and parcels per square mile. The signs for each of these variables, except per capita tax levy, are in the expected direction. The two remaining variables, tax rate and freeway dummy, are significant at the .05 level, although both signs

were unexpected. By being located in a metropolitan area, a town's property value growth was 40% higher than if it were located in a nonmetropolitan location. This result indicates that for the very smallest towns, being located near a larger place is quite important in order for property values to rise rapidly. The other added variable, parcels (in 00's) per square mile, is also highly significant. This variable is actually the inverse of lot size and is a measure of parcelization or the degree to which land had been partitioned into smaller lots. For every 100 additional land parcels per square mile, property value growth is 14 percentage points lower. This result may be a reflection of a developer's tendency to carve many smaller lots out of a larger parcel. The increased supply of housing in areas where land is being developed and subdivided may be the underlying cause for downward pressure on prices.

Contrary to conventional wisdom, the presence of a limited access freeway is negatively associated with property value increases. This result is consistent with a nationwide study that found "it is adjacency to SMSA's that largely accounts for the higher growth rates of freeway counties." (Briggs, 1983, p.84) Because location within a SMSA is already considered by the equation, the finding that freeways are negatively associated with property value growth supports the conclusion of the national study. Property taxes have a

stronger positive effect on property values than on rents. This result implies that homeowners may place a greater value on the services, such as police and fire protection and schools, that tax dollars provide.

Median contract rent is negatively associated with growth in property values. Each \$10 decrease in median monthly rent is associated with a 5 1/2 percentage point increase in property value. This negative relationship was expected since towns with low rent also tend to have low property values.

SUBSAMPLE L

During the 1970's in Subsample L, owner occupied housing values increased 153%. Median contract rent jumped 123% in the same period. Curiously, there is no strong relationship between property values and rents. One would expect that as the housing in an area became more expensive, rent would move up correspondingly. Instead, one finds a correlation coefficient (r) of only +.28. Indeed, one is better able to predict rent by looking at population growth ($r = +.33$) than by looking at home values. Unfortunately, even population growth does a poor job of predicting home values. Only 9% of the change in home values can be explained by varying growth

rates.

Even though the relationship between rent and growth is statistically significant, one is not able to accurately determine future rents, not to mention home values, by simply being able to predict growth. Separate models for rent and property value determination are needed.

Prediction of Rents

The same regression equation used to predict changes in rent for Subsample S is also effective in predicting changes in rent for Subsample L (See Table 13). This model is able to explain 43% of the change in rent. The sign and relative magnitude of each T-statistic is as found in Subsample S. Two variables--median rent and per capita tax levy--are significant at the .01 level. Median property value is significant at the .10 level.

The median rent and tax variables are somewhat more important in predicting rent increases in Subsample L, while owner-occupied property values and location near a freeway are relatively less important predictors. The regression results indicate that migrants to larger towns are somewhat more price sensitive to property values and they value city services more than migrants to small towns.

TABLE 13: Multivariate Regression Model--Predicting Percentage Rent Increases for Subsample L Towns (1970-80)

Independent Variables: 1970 Median Owner-Occupied Property Value (1,000s), 1970 Median Contract Rent (10s per month)
Freeway Dummy, 1970 Per Capita Tax Levy (10s), and 1971 Equalized Tax rate (1,000s)

Percent Increase in Median Contract Rent 1970-80	=	152.97	+	(1.69 x Property Values)	-	(15.17 x Contract Rent)	+	(6.85 x Freeway Dummy)	+	(2.09 x Per Cap Tax Levy)	+	(.56 x Tax Rate)
				*		***				***		

TABLE 14: Multivariate Regression Model--Predicting Percentage Increases in Owner-Occupied Property Values for Subsample I Towns (1970-80)

Independent Variables: 1970 Median Owner-Occupied Property Value (1,000s), % of Population over age 65, % of the Housing Stock that is Owner-Occupied, Ratio of Republicans to Democrats, School Expenditure Per Pupil (100s), 1980 % of Persons over 25 that are High School Graduates, 1979 Per Capita Income (100s), 1970 Population Density (10s Per Square Mile)

Percent Increase in Median Owner-Occupied Property Values 1970-80	=	187.52	-	(4.89 x Property)	-	(3.13 x % Age 65)	-	(1.26 x % Occupied)	+	(5.08 x Rep/Dem)	-	(1.78 x School)
				Median Value		Over		Owner Housing				% High Graduate
				***		***		***				**
				Per pupil								
				+	(5.35 x School)	+	(1.20 x Income)	-	(.12 x Density)			
				Expense								
				**		**		**				

Notes: * Coefficient Significant at the .10 Level
 ** Coefficient Significant at the .05 Level
 *** Coefficient Significant at the .01 Level

Prediction of Property Values

Rental markets are much more similar between Subsamples S and L than are the owner-occupied housing markets. The equation for Subsample S can only explain 15% of the variation in property value rates of increase in subsample L. Despite having more variables with which to build a model for Subsample L than for Subsample S, the best model can explain 42% of the variation in property value growth rates, slightly lower than the explanatory power of the subsample S model. The regression equation using eight variables is given in Table 14. Median property value, percent over age 65, and percent of the housing stock that is owner occupied are all correlated at the .01 level to changes in property value. Population density, per capita income (1979), and % high school graduates (1980) are also statistically significant, though only at the .05 level. I assume that areas of high education in 1980 and income in 1979 also showed that pattern in 1970, thereby allowing use of this model for predictive and not merely explanatory purposes.

Just as the 1970 level of rent is the best predictor of rental increases during the 1970's, so also is the 1970 median property value the best predictor of property value increases.

Each additional \$1,000 in median value lowers the predicted property value growth rate by 4.9 percentage points. Other things being equal, however, property values escalated most rapidly in areas having high incomes and an educated populace.

As expected, property values rose most rapidly in the least dense areas. The regression equation adjusts the estimate downward by one tenth of 1 percentage point for each additional 10 persons per square mile. Property values also rose more rapidly, though not significantly so, when located in a "conservative" town as measured by the ratio of Republicans to Democrats.

The signs for the remaining three variables (percent owner-occupied housing, percent age 65+, and school expenditures per pupil) are all surprises, though not necessarily unexplainable. The negative sign of the owner-occupied variable, for instance, may be indicating that shortages of homes for sale within a reasonable price range force households to rent, creating a lower owner-occupied housing ratio while simultaneously driving up property values. The negative sign of the old age variable may be picking up the fact that older persons are often attracted to rural resort-type communities where developers are bringing supply on to the market so fast that prices are kept down. It is harder to explain why low school expenditures would be associated with property value growth. Perhaps the quality of

schools can only be determined after having some exposure to them, regardless of the amount spent on them. In this case, migrants would not be attracted to towns with high per pupil school expenditures.

CHAPTER 6: SUMMARY AND CONCLUSIONS

Returning to my initial question, which of the nine most common theories for small town growth is best able to explain whether a particular small town in Massachusetts will grow or decline in population? The evidence presented in this thesis points to the profound importance of "the escape from congestion of the city." The single most predictive variable used to represent this theory is the number of vacant parcels in a town--a proxy for the amount of open space. In each of the model specifications for growth in the 1970's, vacant land is consistently the most statistically significant variable.

The results also shatter a number of widely held beliefs about small town growth. One such finding is that towns with higher per capita tax levys are growing faster. This effect is especially pronounced in the smallest towns. True, people complain about taxes and small towns are often praised for their low taxes. But too much of a good thing can be a problem. Evidently, migrants do not want low taxes if it means no services.

Another widely held belief is that people are being

attracted to the seacoast. Not true. People are moving to low density areas, many of which happen to be located on the coast. When one controls for such variables as population and amount of open space, the seacoast has a statistically significant negative effect upon growth.

Contrary to conventional wisdom, a large manufacturing employment base is also negatively associated with growth.

In the 1980's, the amount of vacant land continues to be an important predictor of growth, but its impact is overshadowed by other variables. The two best ways to predict small town growth in the 1980's are simply to see to what extent the town grew in the previous decade and also to examine the level of non-rental housing vacancies at the beginning of the period. High median rent at the beginning of the period is also positively associated with growth.

One change that seems to be occurring in the 1980's is the increasing importance that a large service employment has on growth. This is logical since job creation in the 1980's is weighted toward the service sector.

Where are property values rising fastest? For the smallest towns, the most salient predictor of property value growth is location within an SMSA. Other characteristics to look for include:

1. High taxes. This may indicate that even though the

smallest and most remote places have experienced the most growth, people do not want to be so remote that they do not receive basic services.

2. Low parcelization. Property that has been over-subdivided and "feels like a development" will not experience maximum appreciation in value. People live in the smallest towns because they like the natural character of the countryside.
3. Lack of interstate access. Developers often center their activity in small towns near interstate interchanges, but the regression results have shown that limited access freeways do not promote growth in the smallest towns. Basic economics theory tells us that when supply goes up but demand does not, prices will drop. Also, interstate nodes already may have been developed in the 1960's when most interstates were completed, leaving less opportunity for additional development in the 1970's and 1980's.
4. Low median rent. The most upside potential exists in the towns with the lowest housing costs.

Rents in the smallest towns grow fastest where rents are

initially lowest. Renters, like homeowners, are willing to pay increasingly more for the privilege of living in a high tax (high service) town. Location near high value, owner-occupied housing also leads to higher rates of rental increases.

Unlike property values, rents have been increasing fastest near a limited access freeway. Of course, renters tend to be younger than owners, and younger people are generally more mobile, thereby deriving more benefit from a freeway location.

What determines rising real estate values in small towns over 2,500? Property value increases are highest where the initial property value is lowest and where the income and level of education in the town is highest. (In the smallest towns, by contrast, demographic characteristics have less of an impact.) Property values in low density, conservative towns also tend to rise most rapidly. Surprisingly, the percent of owner-occupied housing and percent over age 65 correlate negatively with property value growth, most likely due to the supply response in areas having these characteristics.

Rental increases in small towns over 2,500 in population, unlike property value increases, are determined by the same forces as in the smallest towns.

It is important to note that although towns grew fastest during the 1970's where there was abundant open space, this

did not translate into a positive correlation between open space and real estate value increases. Each vacant parcel, although enjoyed as open space by town residents, also represents additional supply waiting to be developed. In the case where supply and demand both increase, the effect on price will be unclear. The obvious lesson for real estate developers and investors is to concentrate on those towns that have the advantage of plentiful open space, but that have fairly restrictive zoning ordinances, preventing that asset from being converted into into a liability for one's own property values.

Perhaps the most useful conclusion of this study for developers in Massachusetts is that the conventional wisdom can be wrong when applied to small towns. However, because they are growing faster than the state as a whole, and because they are less likely to be adequately served by the development community, they offer unique opportunities for developers willing to take the time to understand them.

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